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Electro-development

FARMS

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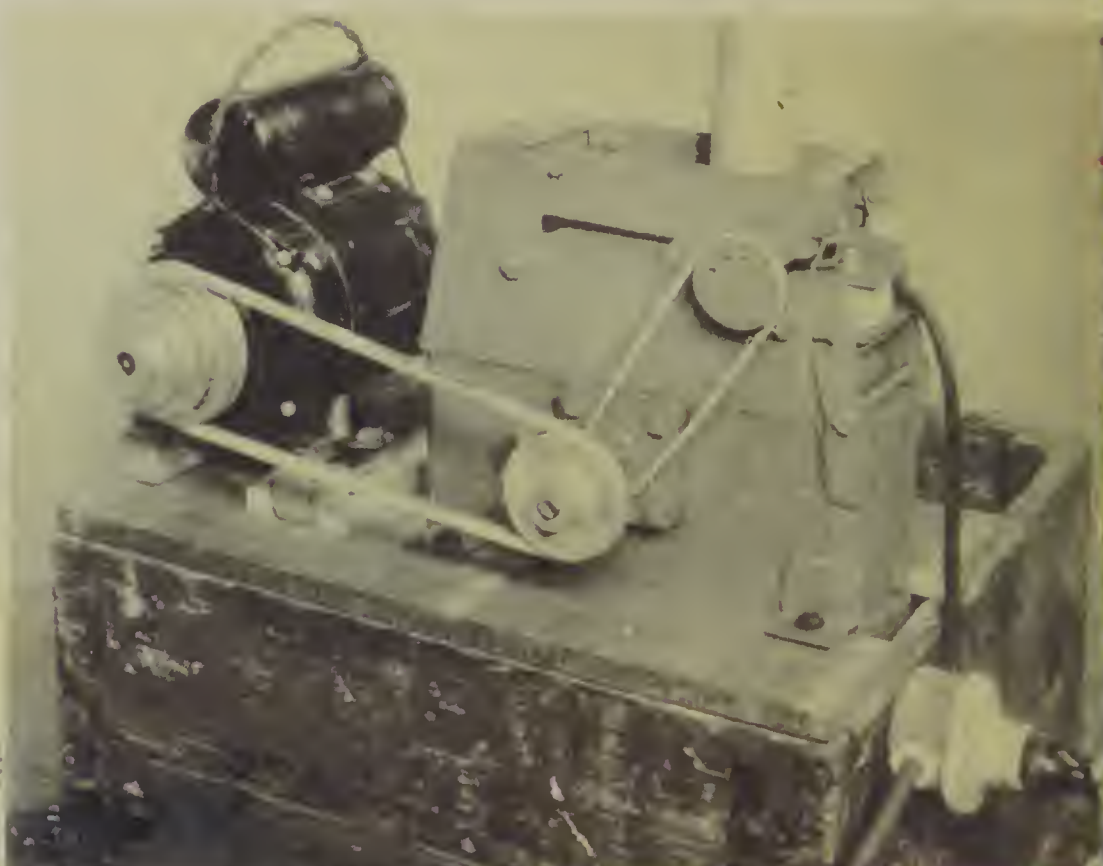
Center: A $\frac{1}{2}$ -horsepower portable motor. Note the homemade handle for ease in carrying. Such a motor will deliver as much power as five men

Upper left: Job 1—A quick, easy way to do a hard job

Upper right: Job 2—The flat rim on corn sheller flywheel is used as a pulley

Lower left: Job 3—The tool grinder is excellent for sharpening sickles and other farm tools

Lower right: Job 4—A small grain grinder with automatic feed saves labor and keeps down cost.



• **Electro-Development FARMS**

• A DISTINCTION FOR FARMERS AND FARM WOMEN

• WHO USE ELECTRICITY WISELY

• IN A PROGRAM OF FARM AND HOME MANAGEMENT

• This booklet tells of a plan which will interest progressive farmers and farm women wherever electric service is available. It suggests ways of getting the most from electric service under your local conditions and of receiving recognition for doing a good job of making electricity work for you.

• • • • •
THE extension of rural lines into new territory always brings up questions.

Here are some of them:

What are some of the jobs electricity will do to help me make or save money?

What equipment is best suited to the job?

How much will the equipment cost to buy and to operate?

How can I get the most for my dollar in wiring and lighting installations?

Which home appliances will provide the greatest satisfaction for the money invested?

One of the best ways to get answers to these questions is by seeing actual demonstrations on typical farms in one's own community. That is why this plan for Electro-Development Farms has been worked out.

HOW THE PLAN WORKS

Briefly, the plan is this:

Lists have been drawn up showing the kinds of electric equipment which are most valuable on the farm. Three types of farms are included: (1) the general purpose farm; (2) the dairy farm; and (3) the poultry farm.

A certificate designating a farm as an Electro-Development Farm will be awarded to each farm family which has installed enough electrical equipment

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in any one of these classes to qualify, and which is following approved farm and home management practices.

This recognition will convey with it the honor and distinction of being one of the progressive leaders in electrified farming.

The selection of Electro-Development Farms is not based on the amount of high-priced equipment a farmer has installed, but on the merits of the equipment as applied to the type of farm. It is especially desirable that the equipment be practical in the sense that it will save money, improve living conditions, increase income or save labor.

Special meters will be installed so farmers may know the costs of operating different pieces of electrical equipment. The Extension Service will give special assistance to Electro-Development Farms in continuing to make better and more profitable use of electricity. It will also supply literature and other information and aid in studying and giving publicity to the results of the farm demonstrations.

In order that others may see first hand the progress being made in adapting electricity to farm practices, the county agent may request that the farms be open for inspection and demonstration on certain occasions at the convenience of the farm family.

Poultry lighting means more eggs in winter



SELECTION OF FARMS

On the following pages are given lists showing the approved electric appliances for each class of farm. It is not necessary to install all of these appliances to be designated as an Electro-Development Farm, but the requirements as indicated are such as to make the award a mark of distinction.

Application blanks similar to that enclosed with this pamphlet may be obtained from your county agent or local power office. Make check marks opposite the appliances now installed and return your application blank to the County Extension Office. Both owner-operated and tenant farms are eligible. The County Extension Service will then arrange for an inspection by a qualified rural electrification committee which will determine if your farm conforms to the required standards. Following such inspection and approval, an Electro-Development Farm Certificate similar to that reproduced on the back cover of this booklet will be presented to you.

If your farm will not meet the required standards but you wish to have it qualify at a later date, indicate your desire at the bottom of the application blank, and you will be given special assistance with your plans.

An overhead irrigation system provides moisture for growing crops when needed



GENERAL REQUIREMENTS FOR ALL ELECTRO-DEVELOPMENT FARMS

Each farm, to be eligible for an Electro-Development Farm Certificate, must give reasonable attention to those practices of good farm management and good home management which are recognized in the area and are consistent with the type of farming being practiced.

The farm premises should be neat and orderly and the farmer and his wife should have a plan of operation and development for the farm and home.

All installed electric equipment must be in normal use. It should demonstrate not only the possibilities for using electricity but also any increase in income and improved living conditions which may result from such use.

The electrical requirements for the farm homes are the same for all types of farms.

Three-wire service is required. The three wires provide both 115 and 230-volt service necessary for ranges, motors, and water heaters, and make future expansion in the use of electricity possible without rewiring.

Good illumination calls for sufficient light to see well. Particular attention will be given to lighting in living rooms and kitchens where work and reading are done. Bare lamps should be provided with shades to distribute the light and prevent glare.

Water systems, radios, electric irons, ranges, and refrigerators are the most used and appreciated home appliances. Electro-development farms must have four of these.

Applicant should list all electric equipment being used, whether specified on the application blank or not.



Electricity brings hot and cold water under pressure; also, clean, convenient cookery and refrigeration to the farm kitchen

The wiring, lighting, and house requirements for an Electro-Development Farm are as follows:

Wiring and Lighting.

1. Three-wire, 60-ampere service or larger.
2. Wall switches.
3. Convenience outlets in:
 - a. Kitchen.
 - b. Living room.
 - c. Dining room.
 - d. Bedroom.
4. Principal lights shaded.

Appliances and Uses Required.

1. Running water at sink.
2. Electric range or refrigerator.
3. Radio.
4. Electric iron.
5. **One** of the following:
 - a. Refrigerator or range.
 - b. Electric water system.
 - c. Washing machine.
 - d. Water heater.
6. **Three** of the following:
 - a. Running water in bathroom.
 - b. Toaster.
 - c. Percolator.
 - d. Waffle iron.
 - e. Sewing machine.
 - f. Fan.
 - g. Kitchen mixer.
 - h. Hotplate.
 - i. Dishwasher.
 - j. Churn.
 - k. Vacuum cleaner.
 - l. Heating pad.
 - m. Electric fly trap.
 - n. Heater.
 - o. Grill.
 - p. Meat grinder.
 - q. Ironer.



Ironing is easier this way



Electric water heater and utensil sterilizer.
They help in producing high-quality milk



An electric brooder eliminates fire hazard, saves
time, and raises quality chicks at low cost

Additional requirements for a General Electro-Development Farm:

1. Barn lighted.
2. Lighted barnyard.
3. Any **three** of the following:
 - a. Feed grinder.
 - b. Sheep shears or animal clippers.
 - c. Tool grinder.
 - d. Ensilage cutter.
 - e. Hay hoist.
 - f. Grain elevator.
 - g. Wood saw.
 - h. Irrigation pump.
 - i. Poultry house lights.
 - j. Electric brooder.
 - k. Seed cleaner.
 - l. Electric hotbed.
 - m. Threshing machine.
 - n. Cider press.
 - o. Pump jack.
 - p. Milking machine.
 - q. Milk cooler.
 - r. Incubator.
 - s. Burglar alarm.
 - t. Electric fence.
 - u. Concrete mixer.
 - v. Corn sheller.
 - w. Cream separator.



An electric milking machine reduces labor



Grinding snapped corn with a 5-horsepower motor-driven hammer mill

EQUIPMENT REQUIREMENTS FOR GENERAL, DAIRY AND POULTRY FARMS

The requirements listed for each type farm are in **addition** to the household and wiring requirements mentioned on the preceding page.

General Farm

General farms are intended to include truck, corn and cotton farms, diversified farms, and types not included under other headings.

An electric water system, lights in the barn or other farm buildings where men work after dark, and one or more lights for illuminating yards between buildings are the specified requirements. In addition to these uses, there are a large number of other applications for electricity from which three are required for qualification. If the uses you are making of electricity are not listed, write them on the application blank. They will count.

Look the list over carefully and see whether it suggests uses for electricity which will be worth while on your farm.

Note that several of the operations listed, such as grinding feed, cutting ensilage, elevating grain, sawing wood, irrigating, and threshing, may all be done with the same 5 to 10 horsepower motor.

Poultry house lights are intended for laying houses to increase winter egg production. In case the poultry farm is devoted to broiler raising and has no hens, requirement (1) will be eliminated and the uses under (5) will be increased from three to four.

Yard lights afford burglar protection and facilitate work.

The electric brooder may be either a battery or hover type but must be of approved design and construction.

Since good egg production is dependent on water being available at all times, running water at the poultry house is required.

Three other uses are required to complete the qualifications.

Requirements.

1. Poultry house lights with time switch.
2. Yard lights.
3. Electric brooder.
4. Running water in poultry house.
5. Any three of the following:
 - a. Electric incubator.
 - b. Feed grinder.
 - c. Water warmer.
 - d. Green feed and litter cutter.
 - e. Lights for growing chicks.
 - f. Ultra-violet light.
 - g. Egg candler.
 - h. Refrigeration for egg and poultry storage.
 - i. Electric semiscald equipment.
 - j. Burglar alarm.

Community walk-in coolers insure year-round meat-curing weather; provide for keeping fresh meat and for storage of many farm products for home consumption or market

A low-cost way of securing strong plants. With an electric hotbed the same bed and soil may be used for starting several crops in one year





Many an arm ache is saved by this 1/4-horsepower motor



Running water is one of the farm's greatest assets. The electric pump is automatic. It costs little to operate and eliminates the drudgery of pumping and carrying water

Dairy Farm

Dairy Electro-Development Farms include both wholesale and retail dairies. Any farm that derives most of its income from milk or its products may classify under this heading regardless of the size of the herd.

Running water in the milk house is required for cleanliness and convenience.

Barn and yard lights are essential for early morning and evening chores in winter.

Four other uses are required to complete the qualifications.

Requirements.

1. Running water in milk house.
2. Barn and yard lights.
3. Any four of the following:
 - a. Feed grinder.
 - b. Milking machine.
 - c. Cream separator.
 - d. Milk cooling equipment.
 - e. Ensilage or hay cutter.
 - f. Hay hoist.
 - g. Grain elevator.
 - h. Animal clipper.
 - i. Water heater in milk house.
 - j. Utensil sterilizer.
 - k. Tool grinder.
 - l. Corn sheller.
 - m. Electric fence.
 - n. Wood saw.
 - o. Electric fly screens.
 - p. Bottle washer.
 - q. Fan ventilation.
 - r. Pump jack.
 - s. Individual drinking cups.
 - t. Milk bottler.
 - u. Electric fly sprayer.

ELECTRO-DEVELOPMENT FARM CERTIFICATE

Presented to _____

for having complied with standards of excellence for an

ELECTRO-DEVELOPMENT FARM

*including good wiring, good lighting, running water in the home, and the reasonable
and practical use of electricity in a program of good home and farm management.*

TYPE OF FARM _____

AWARD APPROVED:

CERTIFICATE NO. _____

CHAIRMAN, COUNTY COMMITTEE.

STATE OF _____

DIRECTOR, AGRICULTURAL EXTENSION SERVICE.

COUNTY OF _____

U. S. GOVERNMENT PRINTING OFFICE: 1933

This program being sponsored by the Agricultural Extension Services of:

The University of Tennessee.

Alabama Polytechnic Institute.

Mississippi State College.

University of Georgia.

Tennessee Valley Authority.

Overhead irrigation system, using portable pipe and revolving sprinklers



ELECTRO-DEVELOPMENT FARM PROJECT

Purpose:

To aid farmers and farm women to make better and more profitable use of electricity in the home and on the farm through demonstrations accompanied by planning and studies of uses for electricity. The use of electricity will be approached as a function of home and farm management and a contributing factor in the readjustment of agriculture associated with soil conservation.

To aid cooperative power associations, municipalities, utilities in serving additional rural customers and in reducing rates by means of increased load based on sound practices in the use of electricity on the farms.

Explanation:

Electro-development Farms will be selected on the basis of compliance with requirements attached to this project. The main consideration in making selections will be adequate and intelligent use of electricity consistent with the type of farm. The farm must also exemplify good farm and home practices as recommended by the Extension Service for the county. Electric equipment is to be provided by the farmer and not by the sponsoring agencies.

Approved farms or those interested in qualifying will form the nucleus for an educational and demonstration electrification program for the county.

Cooperation and Responsibilities: The Electro-development Farm program will be initiated cooperatively by the Agricultural Extension Services of the State Colleges, the Tennessee Valley Authority and local power distribution agencies.

The Agricultural Extension Services will sponsor the program. State Extension specialists in farm and home electrification will have active supervision of the project. County farm and home agents will be responsible for the program in their counties where they elect to undertake it. Where county extension workers are unable or do not choose to include Electro-development Farms in their programs, the demonstrations may be sponsored by teachers of vocational agriculture, county or district power distribution agencies, or farm organizations.

The county sponsoring agency will have responsibility and full credit for enlisting local interest, for inspection of farms, collecting data, conducting tours of the farms, giving publicity to the results, and evaluating the benefit of the demonstrations.

The TVA will provide printed material outlining the plan, educational material, Electro-development Farm certificates, sign boards, assistance in the organization of the program, the selection of farms, and in educational activities.

Procedure:

The Extension Director or District Extension Agents will write letters to county extension agents in Power Association districts explaining purpose of Electro-development Farms and urging their cooperation. County Extension Agents will be directed to write the Extension Director or District Extension Agent if they are interested.

After receiving replies the Extension Director, or District Extension Agents will inform the Extension Agricultural Engineer in Rural Electrification who will arrange a meeting of County Extension workers (through the district agents), Power Association Superintendents and representatives of the Electrical Development Section. The Electro-development Farm project will be explained and booklets distributed.

One or two farms shall be "hand picked" as soon as possible, in counties where the county extension workers have indicated that they will cooperate.

County extension workers will send out booklets, letters of explanation, and application blanks to all farm users of electric power.

Publicity shall be given the activity through local newspapers.

Applications returned to the county extension agents shall be kept in their file and copies of the original sent to the District Extension Agents, the Extension Agricultural Engineer in Rural Electrification and the Electro-development Farm representative of T.V.A.

Inspections to be made by committees and specialists. Recognition will be accompanied by a signed Electro-development Farm certificate and a sign board to be erected at the entrance to the farm.

When Electro-development Farms are selected, publicity will be given in the local papers and farm press.

Meters to be loaned by the local distributor will be installed on selected pieces of equipment for the purpose of studying power consumption and costs. Records will be kept by the farmer with the assistance of the county and home agents and/or power distributor to determine benefits, profits, etc. Such records will be summarized and published periodically.

A special effort will be made to evaluate the effect of electricity on the lives of farm people. This may include direct effects of increased income, improved products and better living or such indirect effects as improved farm and home management, farm beautification, reading and interest in county welfare.

Simple farm and home accounts and inventories will be encouraged, together with the making of a budget providing for the systematic purchase of desired electrical equipment.

Assistance will be given to farmers and farm women on Electro-development Farms, or those wishing to qualify, in the selection and effective use of electrically operated equipment.

Selection of Farms: Electric Wiring, lighting, and applications. To be judged by State Rural Electrification specialists assisted by the county and home agents or a committee selected by them.

Good farm and home practices. To be judged by the county and home agents or a committee selected by them.

Anticipated Results: More effective and profitable use of electricity on farms. More intelligent spending for wiring and electrical equipment, with less waste. Increased use of electric service. Better farm and home management.

Electro-development Farm Requirements

General Requirements

1. Farms should be reasonably accessible, typical of the region and well managed. It is not necessary that they be show places, but they should be neat and orderly and be carrying out the good farm and home practices recommended by the Extension Service.
2. The farms should be soil conservation demonstration farms, if possible.
3. The farmer and his wife should be progressive and good cooperators.
4. The farm should not only demonstrate the mechanics of electrical installations but also the economic and social results of their use.
5. The future development of the farm and home should be considered as well as the immediate appearance of the premises and variety of uses for electricity. Each farm should have a definite operating plan.

Equipment and Wiring Requirements

The following pages outline the requirements to become an Electro-development Farm according to farm classifications.

REQUIREMENTS FOR GENERAL FARM

Wiring & Lighting

Required:

1. Service entrance 60 ampere or larger
2. Adequate ground facilities
3. Wall switches for lights most used
4. At least one double convenience outlet in the kitchen, living room, dining room (if any) and one bed room
5. Most important residence lights shaded to prevent glare
6. Adequate light in each room

Household Equipment

Required:

1. Running water at sink
2. Range or refrigerator
3. Radio
4. Electric iron
5. At least one of the following:
Electric water system
Refrigerator or range
Washing machine
Water heater
6. Any three of the following:
Running water in bathroom
Toaster
Percolator
Waffle iron
Kitchen mixer
Grill or sandwich toaster
Hotplate
Dishwasher
Churn
Ice cream freezer
Meat grinder
Ironing machine
Fan
Attic Fan
Room heater
Electric clock
Heating pad
Vacuum cleaner
Sewing machine

Farm Equipment

Required:

1. Approved barn lighting
2. Yard lights
3. Any three of the following:
Feed grinder
Sheep shears or animal clippers
Tool grinder
Ensilage cutter
Hay hoist
Grain elevator
Wood saw
Irrigation pump
Poultry house lights
Electric brooder
Seed cleaner
Electric hotbed
Threshing machine
Cider press
Pump jack
Milking machine
Milk cooler
Incubator
Burglar alarm
Electric fence
Concrete mixer
Corn sheller

(Please note that appliances are not necessarily listed in order of importance.)

The wiring, lighting, and household equipment requirements for dairy and poultry farms are the same as for general farms. The requirements for farm equipment are different and are as follows:

Dairy Farm Farm Equipment

Required:

1. Running water in dairy
2. Barn and yard lights
3. Any four of the following:

Feed grinder
Milking machine
Cream separator
Milk cooling equipment
Ensilage or hay cutter
Hay hoist
Grain elevator
Animal clippers
Water heater in milk house
Utensil sterilizer
Tool grinder
Corn sheller
Electric fence
Wood saw
Electric fly screens
Bottle washer
Fan ventilator
Pump jack
Individual drinking cups
Milk bottler

Poultry Farm Farm Equipment

Required:

1. Poultry house lights with time switch
2. Yard lights
3. Electric brooder
4. Running water in poultry house
5. Any three of the following:

Electric incubator
Feed grinder
Water warmer
Green feed and litter cutter
Lights for growing chicks
Ultra-violet light
Egg candler
Refrigerator for eggs and poultry storage
Electric semi-scald equipment
Burglar alarm

APPLICATION BLANK
ELECTRO-DEVELOPMENT FARM

Type Farm	Check
General Purpose	_____
Dairy	_____
Poultry	_____

To County Extension Agents _____ County _____ State _____

We hereby make application for inspection of the farm described below to determine whether or not it will qualify as an Electro-development Farm.

We are giving below the information requested.

Signed: Mr. _____

Signed: Mr(s). _____

Address _____	_____	_____
Town	County	State
_____	_____	_____
Road	Miles	Direction
_____	_____	_____
_____	_____	Community Center

Part I GENERAL INFORMATION (To be filled in by applicant)

Number of persons in family _____	Number of rooms in house _____
Size of farm _____ acres	Number of acres in cultivation _____
Principal crops _____	
Number of farm animals _____	Horses, _____ Mules, _____ Milk cows _____ Beef cattle, _____
	Hogs, _____ Sheep, _____ Poultry. _____
Running water in - Kitchen _____ Bath _____ Laundry _____ Barn _____ Barnyard _____ Poultry house _____	
Individual Dairy Drinking Cups _____	

Part II FARM HOME (Applicant place check (✓) after equipment in use)

<u>Wiring and Lighting</u>	<u>Electrical Equipment</u>
Three-wire service _____	Toaster _____ Dish washer _____
Wall switches _____	Percolator _____ Automatic pump _____
Number of convenience _____	Waffle iron _____ Ironer _____
outlets in kitchen _____	Flat iron _____ Radio _____
in living room _____	Kitchen mixer _____ Sewing machine _____
in dining room _____	Hot plate _____ Furnace stoker _____
in bedroom _____	Vacuum cleaner _____ Built in room _____
Principal lights shaded _____	Heating pad _____ heater _____
Range _____	Fan _____ Air condition- _____
Refrigerator _____	Grill _____ ing _____
Washing machine _____	Meat grinder _____
Water heater _____	Fly trap _____
	Portable heater _____

Part III FARM

<u>Electrical Equipment</u>	
Barn lights _____	Irrigation system _____
Yard lights _____	Poultry lights for _____
Feed grinder _____	egg production _____
Ensilage cutter _____	Brooder _____
Wood saw _____	Incubator _____
Hotbed _____	Utensil sterilizer _____
Threshing machine _____	Walk-in refrigerator _____
Animal clippers _____	Corn sheller _____
Tool grinder _____	Fly screens _____
Hay hoist _____	Bull exerciser _____
Grain elevator _____	Ventilating fan _____
Poultry house _____	Water warmer _____
light _____	Seed cleaner _____
Cider press _____	Egg candler _____
Pump jack _____	Egg cleaner _____
Concrete mixer _____	Burglar alarm _____
Cane mill _____	
<u>Portable Motors</u>	<u>Shop Tools</u>
_____ h.p.	Saw _____
_____ h.p.	Planer _____
	Drill _____
	Forge _____
	Soldering iron _____
	<u>List any other equipment</u>

If our farm does not qualify, we would appreciate assistance so that it may qualify at a later date. () check

Remarks:

